

## THE CLAIMS:

1. A process for preparing polymeric beads of complexing resin incorporating magnetic particles, which process comprises: producing a dispersion having a continuous aqueous phase and a dispersed organic phase, said organic phase comprising one or more polymerisable monomers, magnetic particles and a dispersing agent for dispersing said magnetic particles in the organic phase; polymerising said one or more polymerisable monomers to form polymeric beads incorporating said magnetic particles, wherein said polymeric beads include amine groups capable of complexing a transition metal cation, or wherein said polymeric beads are reacted with one or more compounds to provide amine groups capable of complexing a transition metal cation.
2. The process according to claim 1 wherein the organic phase comprises two or more monomers.
3. The process according to any one of claims 1 to 2 wherein said one or more polymerisable monomers are selected from:
  - (a) crosslinking monomers which are able to provide crosslink points; and
  - (b) functional monomers which are able to provide functional groups.
4. The process according to claim 3 wherein said functional monomer provides amine groups capable of complexing a transition metal cation.
5. The process according to claim 4 wherein said functional monomer provides amine groups selected from dimethylaminoethyl methacrylate, aminopropyl acrylamide and methacrylamide, N,N-dimethylaminopropyl acrylamide and methacrylamide, vinyl pyridine, organic-soluble diallylamine or vinylimidazole salts.
6. The process according to claim 3 wherein said functional monomer includes a functional group capable of reaction with one or more compounds to provide said amine

- 23 -

groups capable of complexing a transition metal cation.

7. The process according to claim 6 wherein said functional monomer capable of providing amine groups includes an amide group.

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8. The process according to claim 7 wherein said functional monomer including an amide group is selected from N-vinyl formamide and N-methyl-N-vinyl acetamide.

9. The process according to claim 6 wherein said functional monomer capable of providing amine groups includes an epoxy group.

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10. The processing according to claim 9 wherein said functional monomer including an epoxy group is glycidyl methacrylate.

11. The process according to claim 6 wherein said functional monomer capable of providing amine groups is a vinyl ester.

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12. The process according to claim 11 wherein said vinyl ester is selected from acrylate or methacrylate esters.

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13. The processing according to claim 12 wherein the acrylate ester is methyl acrylate.

14. The process according to any one of claims 1 to 13 wherein said one or more polymerisable monomers further includes one or more back bone monomers.

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15. The process according to any one of claims 1 to 14 wherein said dispersed organic phase further comprises a porogen.

16. The process of any one of claims 1 to 15 wherein the magnetic particles are selected from  $\gamma$ -iron oxide, magnetite and chromium dioxide.

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- 24 -

17. The process according to any one of claims 1 to 16 wherein the dispersion is stabilised using a stabilising agent.

18. The process according to any one of claims 1 to 17 wherein the dispersing agent  
5 reacts with at least one monomer to become covalently bound within the polymeric beads.

19. Polymeric beads of complexing resin comprising a polymer matrix having magnetic particles dispersed substantially uniformly therein, wherein the polymer matrix incorporates amine groups capable of complexing a transition metal cation.

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20. The polymeric beads of claim 19, wherein the polymeric matrix incorporates a dispersing agent covalently bound within the polymeric matrix.

21. A complexing resin prepared by the process of any one of claims 1 to 18.

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